Factors Influencing Customers' Attitude Towards Online Shopping: Evidence from Dhaka City

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Abstract: *The e-commerce sector in Bangladesh is quite prospective for e-marketers since it is a means for business growth. Undoubtedly, the knowledge on the factors affecting buyers' behavior, the relationships between these factors and the type of online buyers would give assistance to the e-marketers in evolving their marketing strategies. This paper focuses on factors influencing online buyers' attitude based on the evidence from buyers of Dhaka city. It also investigates how different types of online buyers perceive websites differently. Data used in this study was obtained using an interviewer-administered structured questionnaire on 199 respondents, selected randomly having experience in online purchasing. Exploratory factor analysis was conducted to factorize seventeen variables along with ANOVA techniques in order to test different hypotheses. Website reliability, website design, website customer service and website competency are the four dominant factors which influence consumer perceptions of online purchasing. The five types of online buyers, namely, prospective, trial, occasional, frequent and regular online buyers; perceived the four website factors differently except for website design. These buyers have similar evaluations of website design but different evaluations of website reliability and security issues, which imply that security or privacy issues are important to most online buyers. The challenge of converting low frequency online consumers into regular consumers can be encountered by properly addressing concerns about reliable performance, security and design.*

Keywords: *E-commerce, PCA, Business-to-Customer, Exploratory factor analysis, ANOVA.*

Introduction

The practitioners of electronic commerce constantly attempt to gain an improved insight into consumer behavior in cyberspace since e-commerce first evolved over a decade ago. Researchers continue to explain e-consumers' behavior from different perspectives along with the development of e-retailing. A critical understanding of consumer behavior in the virtual environment, as in the physical world, cannot be consummate if the factors affecting the purchase decision are disregarded or misunderstood. Several researchers proposed that consumers' shopping behavior in online shops may be fundamentally

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different from that in the traditional environment (Ahmed, Zaman, & Mahtab, 2013). As frequent online shopping enhances frequent online buyers' trust in the respective website than for less frequent online buyers, they are expected to use online shopping more frequently. Clearly, electronic markets have some unique economic characteristics. Internet is changing the way consumers shop and buy goods and services, and has rapidly evolved into a global phenomenon. Many companies have started using internet with the aim of decreasing marketing costs, thereby reducing the price of their products and services in order to stay ahead in highly competitive markets. Customers use the internet not only to buy the product online, but also to compare prices, product features and after sale service facilities they will receive if they purchase the product from a particular store. Many experts are optimistic about the prospect of online business.

Review of Literature

In Bangladesh, online shopping would get more attention from customers because purchasing from internet gives many benefits to customers such as shopping from their place, reduced cost of transportation, wide variety of choices (Alba et al., 1997). In contrary, commercial use of internet is still inadequate in Bangladesh. Bangladesh is way behind to adapt the main stream of e-commerce application (Laisuzzaman, Imran, Nahid, Amin, & Alim, 2010). Business to consumers (B2C) e-commerce is practically less practiced in Bangladesh, while a very limited level of Business to business (B2B) and Business to Government (B2G) transactions exits (Jamil & Ahmad, 2009). Like other developing and under developed countries, Bangladesh is lagging behind in taping full benefits of growing e-commerce; mainly due to : a) absence of national level public key infrastructure b) being suspicious of secure electronic transaction in local currency c) various innovative, consumer's personality related, social and other technical challenges d) non-compliance to legal issues (Dey, Nabi, & Anwer, 2009). It is also mentioned (Parvin, Azim, & Sultana, 2007) that the commercial use of internet is limited due to the band width limitation. Meanwhile, Bangladesh is moving ahead in developing the internet and information communication technology. In our country already has trained IT professional (Laisuzzaman et al., 2010). The member of IT users in Bangladesh is creasing rapidly. According to International Telecommunication Union (ITU) report, Bangladesh had 450,000 internet users in 2007 and all the districts headquarters have cyber cafes (Laisuzzaman et al., 2010). Online commerce also increases gradually. The size of the domestic market has been estimated to be more than Tk. 300 core in a year (BASIS, 2007). At the closing of 2008, almost 1,596 million people or 23.8 percent of overall populations of the globe had access to the Internet (Bhowmik, 2012). These present a growth of 342.2 percent across the year 2000. Asian countries news report for 474.9 percent increases. Its overall internet user stands at 657 million or 41.2 percent of the world's full internet users, although balance of the world was developed by almost 280.7 percent in this period (The Internet Coaching Library 2009). Only in China more

than 420 million people use the internet (Internet Usage and Population Statistics 2010). The internet population of Bangladesh is greatly contributing to the development of Asian countries, which assured 450 percent development in the period of 2000-2007. Bangladesh launched high-velocity internet connectivity through submarine superhighway in 2005 which was initiated in 1993 but still stays at the primary level. After the introduction of this intensive connectivity, the figure of internet users has expanded from 3.2 percent to 12 percent in the last two years. It's believed that by 2020, there will be an extra 2.6 percent increase of GDP as a consequence of using high-speed internet. Also, 4 lac modern businesses and 1.29 lac new employment chances will be generated. Another commitment of the political Government is to extend coverage of broadband network to 30 percent by 2015 and 40 percent by 2021. GDP will grow by another 1.38 percent if broadband penetration is expanded by 10 percent. So, to utilize ICT potentials in Bangladesh, the government has announced information technology as a thrust sector of the country and launched country's vision to build digital Bangladesh by 2021. The political government has also brought some changes in the national ICT policy 1999 which reiterates establishing e-commerce by 2012 and e-governance by 2014 (Bhowmik, 2012). Considering all these prospects of ICT and e-commerce in Bangladesh, it can be said that if e-marketers know the factors affecting consumers' online purchase decisions, and how consumers can make these decisions, they can develop their own marketing strategies to convert potential customers to real ones, and also to retain current customers. This study is expected to improve our understanding of online consumer behavior. In addition, some valuable insights on how to develop effective strategies to obtain success in the demanding electronic marketplace will be presented to e-marketers.

Research Objectives:

E-business is indispensably reforming the way consumers buy goods and services. A study on the behavior of the online buyers in Bangladesh becomes necessary considering the nature of an ever-changing electronic market environment. Revealing the factors that might affect the online purchasers' behavior has become essential. The factors that can explain the differences in online buying behavior among different online buyers are also relevant to be explored. Figure 01 below more clearly explains how the website factors and type of online buyers have been investigated in this paper. The purpose of this research study is to explore online consumer behavior, which in turn will provide e-marketers with a constructional framework for modification of their e-businesses' strategies. The specific objectives of this research are:

1. Identifying the factors influencing online shopping purchase behavior.

2. Identifying whether the perception of different categories of online buyers regarding website factors and website elements vary.
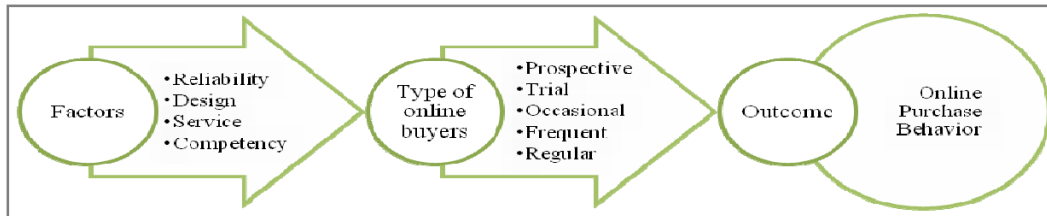
Figure 01: Research Framework

We develop the following hypotheses considering the above mentioned objectives:

H1: Different online buyers perceive the website design factors differently;

H2: Different online buyers have different perception on these website factors.

Methodology

The target population of this study consists of those who have experienced online purchasing and also who might buy online in future. Because of the availability of internet connectivity, the extent of the population has been limited to Dhaka city. An interviewer-administered structured questionnaire was employed to collect data from 199 randomly selected respondents possessing different demographics characteristics. The components of the questionnaire are described elsewhere (Shergill & Chen, 2005). In order to identify different factors; that affect online purchase behavior, we used an exploratory factor analysis technique to classify the variables considered into these factors which buyers keep in mind while shopping online. We classified online buyers into different categories; including prospective buyers, trial online buyers, occasional online buyers, frequent online buyers and regular buyers; on the basis of purchase frequency. Based on a survey of 199 respondents we investigated how these various categories of online buyers perceived these four factors. ANOVA techniques were also employed to test several hypotheses considered in this study.

Results and Discussion

Online buyers' demographics are expected to be the basis of the market segmentation and hence demands closer look through the demographic distribution of our respondents. Table 01 exhibits the demographic features of the online buyers considered in our study. It is found that more than 60% of our respondents belong to the age group 21-29. It means that younger generations are exposed to online buying as they use more information technologies than the older citizens in our country. Moreover, more than 68% of the respondents had their under-graduation and post-graduation completed. This reflects that relatively educated people are exposed to online buying. It is also revealed that people who serve in private sector and do business utilize the option of shopping

online (53.8%) more than their counterparts elsewhere. The proportions of the different buyers participated in our study were 5.5% prospective buyers, 7% trial buyers, 13.1% frequent buyers, 12.1% regular buyers whereas rest of them were occasional buyers (62.3%) as e-shopping is a new, emerging service in our country and people are about to get used to this idea.

Keeping the goal of identifying the underlying dimension in online buyers, perception towards websites they visited for shopping in mind, exploratory factor analysis was employed. The respondents were asked to rate 17 variables which were ranged from 'strongly disagree' to 'strongly agree', using a 5-point Likert scale (Shergill & Chen, 2005).

Table 01: Socio-Demographic Background of the Respondents

Background Characteristics	Number of respondents (n)	Percentage (%)
Gender		
Male	152	76.4
Female	47	23.6
Age		
Below 21	22	11.1
21 – 29	120	60.3
30 – 39	39	19.6
40 – 49	13	6.5
50 & above	5	2.5
Education		
Secondary Incomplete	1	0.5
Secondary Complete	54	27.1
Undergraduate Complete	69	34.7
Post graduation Complete	69	34.7
Other professional Degree	6	3.0
Profession		
Government Service	16	8.0
Private Service	73	36.7
Business	34	17.1
Others	76	38.2
Total	**199**	**100.0**

Before factor analysis was carried out, the inter-item consistency reliability of these seventeen variables was tested. The result for Cronbach's Alpha test was 0.739, and no item deletion significantly increased the result. The closer the reliability coefficient gets to the value of 1.0, the better the reliability of the measures is (Cronbach, 1951). This scale can be considered to be a good one. Moreover, the results of both the KMO (0.708) and Bartlett's test of sphericity (p <0.001), also indicate that it was appropriate to apply the exploratory factor analysis technique to this data set. PCA yields four factors that explain more than 46% of the variance. According to practical significance criteria (Hair, Anderson, Tatham, & Black, 1995), individual item factor loadings have to exceed 0.4, and one factor should include at least two items. These practical significant criteria were also met in the exploratory factor analysis.

Table 02 shows the result obtained in factor analysis of the seventeen variables which online buyers used to measure the quality of websites most recently visited. The PCA extracted four factors from the seventeen variables. Each factor was defined by at least two scale items.

Factor 1 loaded on the first ten variables. This can be labeled as reliability/fulfillment factor as these ten variables revealed the perceptions of online buyers related to the components of the reliability of the website i.e., on-time delivery, whether the products or services received corresponded to those described on the websites, ease of navigation

Table 02: Rotated Factor Matrices of Perceived Factors Affecting Online Purchase by Online Buyers*					
Variables		**Factors**			
		1	2	3	4
1	The website shows a sincere interest in solving the problems I face	**.617**	.295	-.236	.199
2	Feel safe in my transactions with this website	**.540**	-.424	-.137	
3	The product is delivered by the time promised by the company	**.525**	-.177	.341	
4	This website has adequate security features	**.507**		-.248	
5	Feel my privacy is protected at this site	**.507**		-.408	-.168
6	The company is willing and ready to respond to customer needs	**.474**	.367	.327	.136

7	The product that came was represented accurately by the website	**.443**	-.436	.352	
8	It is quick and easy to complete a transaction at this website	**.442**	-.242	.193	.349
9	Feel comfortable in surfing this site	**.439**	.107	-.188	.189
10	This website understands my needs	**.436**	.363	.247	
11	The level of personalization at this site is about right, not too much or too little.	.273	**.590**	.197	.265
12	This website has a good selection	.353	**.434**		
13	I get what I ordered from this website	.356	-.327	**.591**	-.215
14	Inquiries are answered promptly	.429	.127	**-.440**	-.359
15	The website provides in depth information	.370		.184	**-.552**
16	The site doesn't waste my time	.253	-.448	-.355	**.513**
17	This site has competitive prices	.430		-.236	**-.431**
	Variation explained by each factor	19.75%	9.98%	9.29%	7.38%
	Total variation explained by these factors				46.40%
	Cronbach's Alpha	0.739			
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.708			
	Bartlett's Test of Sphericity:	543.85			
	Approx. Chi-Square	136			
	d.f.	<0.001			
	Significance				
*Small coefficients are suppressed					

browsing ambience, order processing, merchandise assortment, and security. This category's results indicated the importance of convincing buyers that e-retailers can fulfill their promises, since unlike the traditional salespersons in a shop; online consumers cannot obtain promises directly.

This factor alone has explained more than 19% of the total variation in the factor analysis. Factor 2 was correlated highly with variables eleven and twelve. All these elements were considered as the predominant predictors of online consumers' purchasing

decisions. This factor has explained about 10% of the total variation in the factor analysis and could be labeled as website design factor. The third factor might be labeled website customer service that includes variable 13 and 14. It includes, prompt response to email inquiries and delivering the product actually purchased. The fourth factor might be labeled website competency. It reveals that sufficient and useful information, speed of checkout and price advantage were main issues for those considering purchasing online. This factor explains 7% of the total variation, and indicates the importance of this factor in the study of online shopping behavior.

The mean scores for all factors have been compared in order to examine how the consumers perceived website quality; in terms of website reliability/fulfillment, website design, website customer service and website competency. The findings of online buyers' different perceptions of the four influencing factors are presented in Table 03.

Firstly, the website reliability factor has, as stated in Table 03, a slightly lower mean score of 3.54 than the overall mean score of 3.61. Easiness of transactions and surfing comfort have high mean scores within this factor. Sincerity in solving the problems possesses a lower mean, which implies that online purchasers are less satisfied with this service. The lower mean scores of adequate security features (3.35), website protection (3.48) and accuracy of the product represented in the website (3.39), indicate that online Bangladeshi buyers are still less satisfied with these security areas.

Secondly, online buyers rated the website design factor the highest mean score (3.76). Both the factor mean scores and website variables means indicate online buyers' satisfaction with e-retailers' designs by far. All of the variables are higher or close to the overall factors' mean score of 3.61. On the other hand, lower score in the category of level of personalization indicates that this can result in driving potential online buyers away since they cannot always find their desired product. Thirdly, online buyers rated the website customer service factor at 3.54, which is just slightly lower than the overall perceived average score of 3.61. Prompt reply has the lower mean; implying that online consumers are not convincingly satisfied with the level of customer service e-retailers provided. Fourthly, as compared to the perceived overall perception of a website with a mean score of 3.61, online buyers rated the website competency factor a mean score of 3.60.

The noticeably large mean score of the factor suggests that consumers considered this factor to be a possible promise to their online purchasing. Online buyers are close to neutral on the personal information and financial security factor. Hence, they must be reassured that the transactions are protected, though the issue of security is now more a psychological than a financial or a technological problem.

The results revealed that online purchasers' buying behaviors are affected by these four factors. Online consumers have different perceptions on all four factors. It is found that the e-retailers' competency in fulfilling their promises, and their honesty attributes, have satisfied their consumers. How different types of online buyers perceived all seventeen influential website variables and four factors is, however, still unclear.

Table 03: Online Buyers' Perceptions of the Four Factors			
	Website Variables	**Mean**	**SD**
Reliability factor	It is quick and easy to complete a transaction at this website	3.78	0.94
	This website understands my needs	3.59	0.84
	Feel comfortable in surfing this site	3.75	0.86
	The product that came was represented accurately by the website	3.39	1.06
	The product is delivered by the time promised by the company	3.62	1.07
	The company is willing and ready to respond to customer needs	3.67	1.02
	The website shows a sincere interest in solving the problems I face	3.14	1.04
	Feel my privacy is protected at this site	3.48	1.00
	Feel safe in my transactions with this website	3.61	1.06
	This website has adequate security features	3.35	1.06
	Overall mean of Reliability factor	**3.54**	**1.00**
Design factor	The level of personalization at this site is about right, not too much or too little.	3.59	0.71
	This website has a good selection	3.93	0.81
	Overall mean of Design factor	**3.76**	**0.76**
Service factor	I get what I ordered from this website	3.84	0.94
	Inquiries are answered promptly	3.23	0.96
	Overall mean of Service factor	**3.54**	**0.95**
Competency factor	The website provides in depth information	3.72	0.97
	The site doesn't waste my time	3.61	1.01
	This site has competitive prices	3.48	0.94
	Overall mean of Competency factor	**3.60**	**0.97**
Overall mean score of four factors		**3.61**	**0.39**

A series of ANOVA tests, and the comparison of the mean values of the variables, were used to address this issue. In this section, five types of online buyers' perceptions of the website variables were discussed.

Table 04 reports the average ratings of the seventeen website variables, which measured how online buyers perceived their most recently visited websites. In case of production selection criteria, all five types of buyers scored significantly different (p=0.01). This is also true for safety of transactions (p=0.01).

For rest of fifteen variables, the buyers from different categories scored insignificantly different. This indicated that the five types of online buyers perceived most of the variables in the same way. This could be for the reason that website shopping is a new idea for Bangladesh which has a great future ahead currently facing almost similar utilization by the customers.

Table 04: ANOVA on Website Variables and Types of Online Buyers						
	Prospective buyer (n=11)	Trial online buyer (n=14)	Occasional online buyer (n=124)	Frequent online buyer (n=26)	Regular online buyer (n=24)	p-value
	Mean	Mean	Mean	Mean	Mean	
1. The website provides in depth information	4.27	3.79	3.65	3.62	3.92	0.243
2. The level of personalization at this site is about right, not too much or too little.	3.55	3.21	3.57	3.73	3.75	0.181
3. It is quick and easy to complete a transaction at this website	3.45	3.43	3.75	3.96	4.13	0.104
4. This website has a good selection	4.18	3.43	3.85	4.31	4.13	**0.005**
5. The site doesn't waste my time	3.00	3.57	3.67	3.54	3.67	0.324
6. This site has competitive prices	3.64	3.43	3.48	3.54	3.38	0.947
7. This website understands my needs	3.55	3.57	3.58	3.50	3.79	0.789
8. Feel comfortable in surfing this site	3.73	3.79	3.69	3.85	3.96	0.652
9. The product that came was represented accurately by the website	3.09	3.21	3.47	3.12	3.50	0.415

10. I get what I ordered from this website	3.27	3.93	3.92	3.65	3.88	0.192
11. The product is delivered by the time promised by the company	3.09	3.43	3.65	3.50	4.00	0.161
12. The company is willing and ready to respond to customer needs	3.27	3.14	3.69	4.00	3.67	0.081
13. The website shows a sincere interest in solving problems I face	3.27	2.79	3.11	3.42	3.13	0.439
14. Inquiries are answered promptly	3.55	3.14	3.16	3.54	3.17	0.321
15. Feel my privacy is protected at this site	3.45	3.43	3.46	3.65	3.46	0.927
16. Feel safe in my transactions with this website	2.55	3.43	3.69	3.88	3.46	**0.005**
17. Website has adequate security features	3.09	3.36	3.27	3.58	3.58	0.456
Average Score of different online buyers	**3.41**	**3.42**	**3.57**	**3.67**	**3.68**	

It is also noteworthy that the overall sore for regular buyers was much higher (3.68) than the prospective buyers (3.41) and that of the overall mean score (3.61, Table 03). This indicates a good prospect of online shopping as more regular buyers are satisfied by current e-retailing services. Putting light on the overall category mean scores of those five types of buyers, it can be said that the frequent and regular online buyers were satisfied with the quality of the websites they visited, in comparison to the overall sample mean score of 3.61 (Table 03) and other three types of buyers were relatively dissatisfied.

The mean scores, shown in Table 04; indicate that the more often online buyers bought online, the more satisfied they were with each website variable. This implied that E-marketers had to examine the criteria of every website variable against the five types of online buyers in order to meet their different requirements. The other research objective of this paper pertains to differentiation in the perceptions of the four factors among the five types of online buyers.

This research assumed that regular online buyers would return the highest mean score for all four factors, whereas the trial online buyers would return the lowest ratings. It was also assumed that there was no difference in the perception of the privacy/security factor across the five types of online buyers. The results of this analysis are shown in Table 05.

Table 05: ANOVA on Types of Online Buyers and Website Factors						
Factors	**Types of buyer**					
	Prospective online buyer (n=11)	**Trial online buyer (n=14)**	**Occasional online buyer (n=124)**	**Frequent online buyer (n=26)**	**Regular online buyer (n=24)**	**p-value**
	Mean	**Mean**	**Mean**	**Mean**	**Mean**	
Reliability	3.25	3.36	3.54	3.65	3.67	0.100
Design	3.86	3.32	3.71	4.02	3.94	**0.002**
Service	3.41	3.54	3.54	3.60	3.52	0.960
Competency	3.64	3.60	3.60	3.56	3.65	0.989

As can be seen from Table 05, our second hypothesis (H2) has been partially supported. The results showed that only the website design factor was perceived differently (with p-values of 0.002), among prospective, trial, occasional, frequent and regular online buyers. On the other hand, reliability of the website, the perception of customer service and competency among the five types of online buyers was not significantly different. This indicated that different types of online buyers were fairly satisfied with customer service almost at equal scale whereas more online buying experience would positively enhance the evaluation of online purchasing, and this would result in different perceptions among the five types of online buyers. In addition, a pattern should be noticed. In each case, the level of satisfaction increases as the buyers' online shopping frequency increases with an exception for service factor. Frequent use of online shopping helps to remove that barrier, and results in building the trust of online buyers.

Conclusion

In the quest of concerning the factors which cause consumer satisfaction in online purchasing experiences, this paper identified that website competency, website design, website reliability/fulfillment and website customer service are the four pronounced factors which influence consumer perceptions of their online purchasing experiences. However, online buyers have insignificantly different perceptions on these four factors. Website design had the highest rating score, followed by website competency. Website design and reliability ranked third. Each of the five types of online buyers has a different perception of specific website elements and website factors. Regular online buyers were much more satisfied with website variables and website factors than the other online buyers whereas trial online buyers had the poorest perception of online shopping. This research indicates that the least satisfying aspect to buying online is still website

reliability with a mean of 3.54. The paper emphasized reliability and security issues as the major reasons for people choosing not to purchase online. According to researches, it is observed that customers' perception about secure payment mechanism is determined by online financial security, privacy and the reputation of the vendor as well (Hoffman, Novak, & Peralta, 1999; GUV, 1998). Hence, ensuring the customers through adaptation of advanced encryption technology and posting assurances of their online security on their website would enhance the reliability. Online purchasers are quite satisfied with the website design. This factor scored the second lowest mean of 3.76 in this study. Moreover, website efficiency and usability can facilitate the buying process and establish consumer confidence in the site. On the other hand, online buyers are moderately satisfied with website competency and customer service. This strength can be consolidated by choosing more well-known products or brands to market online since products with brand value and services are usually perceived by consumers as possessing better qualities. Moreover, attractive offers on guarantees and warranties can effectively improve the service quality for the customers. The research findings indicated that each of the four website factors identified has a crucial influence on all online buyers' perceptions of online purchasing. One of the findings also indicated that different types of online purchasers (i.e., trial, occasional, frequent and regular online buyers) have similar evaluations of website design only while they have different evaluation of other factors. So, the challenge of converting online customers with low frequency of usage into frequent user can be encountered by properly addressing concerns about reliable performance, security and website design.

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